

Attachment 1

Specifications/Drawings

DTFAEN-11-R-00053

**Installation of six concrete foundations for new future towers at the
MALSR facility, Spartanburg, SC.**

SPECIFICATION
FOR INSTALLING SIX NEW CONCRETE FOUNDATIONS
AT THE
MALSR, RUNWAY 05
SPARTANBURG DOWNTOWN MEMORIAL AIRPORT
SPARTANBURG, SC

1. GENERAL.

1.1. These specifications cover the requirements of the Federal Aviation Administration for installing six new concrete foundations for new, future towers (by others) at the MALSR facility for Runway 05 for the Spartanburg Downtown Memorial Airport, Spartanburg, SC.

1.2. The requirements of these specifications are intended to be in conformity with all current building and OSHA codes. If they are found to be in conflict, the contractor shall notify the pertinent FAA official prior to continuing. The contractor shall also adhere to all Federal, state, and local labor and safety statutes that may apply.

1.3. ACRONYMS AND ABBREVIATIONS.

CFM - Contractor Furnished Material
CO - Contracting Officer
COR - Contracting Officer's Representative
FAA - Federal Aviation Administration
GA - Gauge of steel wire (US Steel Wire Gauge)
GFM - Government Furnished Material
GSP - Identifier for Greer, SC
MALSR - Medium-Intensity Approach Light System with RAIL (flasher system)
MAX - Maximum
MIN - Minimum
NTP - Notice To Proceed
SPA - Identifier for Spartanburg, SC
SSC - System Support Center (local FAA)

2. CONDITIONS AFFECTING WORK.

2.1. SCOPE OF WORK. The scope of work shall include, but is not limited to, furnishing all labor, materials, tools, equipment, and services as necessary to furnish and install the new fences and the concrete foundations. The general scope of work is as follows:

a) Install four new 8' x 8' x 18" deep concrete foundations with six GFM anchor bolts and one GFM winch plate, conduits and rebar, each, southwest of Southport Rd, located per the drawings.

b) Install one new 8' x 8' x 18" deep concrete foundation around existing Station 4+40, with six GFM anchor bolts and one GFM winch plate, conduits and rebar, located per the drawings.

c) Install one new 36" x 40" x 18" deep concrete foundation southwest of existing Station 2+20 with two GFM anchor bolts and one GFM winch plate, conduits and rebar, located per the drawings.

d) Install fill around Stations 4+40 and 2+20 per the dimensions on the drawings. Fill shall be to within 3" of new foundation and taper outward to existing grade.

e) Remove two existing winch foundations at Station 4+40, and relocate four existing cable markers at Stations 4+40 and 2+20.

2.2. SCHEDULING OF WORK. The scope of work under this contract requires working on an operational FAA facility. The contractor, therefore, will be required to coordinate his activities with the COR who will be identified at the preconstruction conference. All work, including daily cleanup, shall be performed between the hours of 8:00 AM to 4:00 PM, Monday through Friday, unless otherwise coordinated with the local FAA.

2.3. SITE VISIT. The bidder is expected to carefully examine the site and all areas of proposed work to see firsthand the extent of work involved. The submission of a proposal will be considered prima facie evidence that the bidder has made such an examination and is satisfied as to the conditions to be encountered in performing the work. It shall be the responsibility of the bidder to make his own interpretations of existing site conditions as

the drawings and specifications may not reflect all site characteristics. To schedule a site visit, contact the GSP SSC Manager, at (864)877-7477.

2.4. WORK LOCATION. The contractor will be responsible for obtaining all required insurance, bonding, badges, etc. as required by the CO and the Airport. The work site falls outside and within the Airport perimeter fence.

2.5. WORK ACCESS. Access to the site requires passing through security gates. Therefore, the local FAA will escort the contractor to and from the site on a daily basis, unless alternate arrangements are agreed upon at the preconstruction conference. The contractor shall coordinate his schedule to the local FAA in order to secure a daily escort.

2.6. WORKERS. Due to security regulations, no foreign national workers will be allowed on the job site without 30 day notification and approval. Contact the SSC Manager for further information.

3. SUBMISSIONS.

Not applicable.

4. MATERIAL.

4.1. GENERAL. All material specified herein shall be supplied, transported, maintained, handled, installed and stored by the contractor. All material estimates and measurements are the responsibility of the contractor.

4.2. MATERIAL SPECIFICATIONS. All material shall adhere to the guidelines and specifications set forth in the latest editions of the UL, and ASTM publications. These specifications shall take precedence over site and standard drawings. Items 4.3. through 4.7. are major CFM items, however, they are not inclusive of all CFM items. Items 4.8 and 4.9 are GFM.

4.3. CONCRETE. Concrete, adhering to ASTM C 33 and ASTM C 94, having a 28-day compressive strength of 3,000 psi, with a 3 to 4 inch slump, and a maximum aggregate size of 3/4".

4.4. REBAR. #4 rebar for installation in all six foundations with unbroken lengths as required, with rebar ties at all rebar crossings.

4.5. CONDUIT. Size and type as required on the drawings, new, to include all necessary sweeps, couplings, bushings and temporary caps.

4.6. FILL MATERIAL. Borrow fill, new, clean, meeting ASTM D2321, class II or Class III soils. Fill shall be compacted to 95% standard proctor density.

4.7. HARDWARE. All fasteners and exterior hardware not previously mentioned shall be hot-dipped galvanized steel.

4.8. ANCHOR BOLTS (GFM). $\frac{3}{4}$ " dia X 20" galvanized j-bolts, with nuts, 18 total (6 per foundation) for Stations 4+40, 16+80, 18+60, 20+40 and 22+20; $\frac{3}{4}$ " dia x 16" galvanized j-bolts, with nuts, 2 total for Station 2+20.

4.9. WINCH PLATE (GFM). 15" X 2" X $\frac{1}{2}$ " galvanized bar, with resistive rebar section, six required.

5. INSTALLATION.

5.1. GENERAL. Comply with all phases of these specifications and site drawing series CAE-B-207. These specifications shall take precedence over site and standard drawings. Any damage to existing underground power cable or any other FAA entity shall be repaired by contractor at his expense.

5.2. Contractor shall locate all underground (both FAA & possible non-FAA) cables and/or utilities in the area. Any damage done to FAA cables or non-FAA utilities shall be repaired immediately by the contractor at his expense.

5.3. Install framing for four new concrete foundations, at MALSR stations 16+80, 18+60, 20+40 and 22+20. These four new lightbar center shall be 20' (+/- 1") from the existing lightbar center. New foundation shall be 6" above existing grade. Removed earth shall be disposed of offsite. Anchor bolts and winch plate shall be framed in prior to concrete pour, plumb and per the dimensions. It is recommended the contractor use a template to confirm positioning of the winch plate and the adjacent two

anchor bolts. The winch can be made available for this purpose. Install rebar 4" above foundation bottom, using rebar chairs.

5.4. Install framing for two new concrete foundations, at MALSR stations 4+40 and 2+20. These two new lightbar center shall be centered about the existing lightbar centers. New foundation shall be flush with existing foundations. Conduit orientation shall be determined at this time. Local FAA shall expose and reroute existing underground wiring, to preserve it and to help ascertain new conduit orientation.

5.6. CONDUIT MARKING. Conduits shall be sealed above the foundation, prior to concrete pour so as to prevent concrete entry. The ends of buried conduits shall be sealed and identified via wood stakes, visible and extending above grade.

5.7. Install concrete, taking care not to disturb bolts and winch plates out of plumb. Bolt threads and winch plate (above-concrete areas) shall be free of concrete. Concrete surface shall be level to within ¼". Broom finish concrete surface.

5.8. Install fill around Stations 4+40 and 2+20 per the dimensions shown on the drawings. Fill shall be to within 3" of top of concrete, and shall taper away from foundation to intersect with existing terrain at distances given.

5.9. Remove and dispose of offsite two existing winch concrete foundations from Station 4+40.

5.10. Relocate four existing cable markers (two at Sta 4+40 and two at Sta 2+20). Markers shall be properly oriented to correctly show underground cable routing and shall be 1" above surrounding terrain.

5.11. FORMWORK. Remove and dispose of foundation formwork after concrete has cured for a minimum of 72 hours.

6. CLEANUP.

6.1. Before final inspection, the contractor shall thoroughly clean within the construction limits and the surrounding areas affected by this work, including the following:

a. All construction facilities, debris, and rubbish shall be removed from the buildings and the site on a daily basis.

2/11/2011

FAA-CAE-11-01

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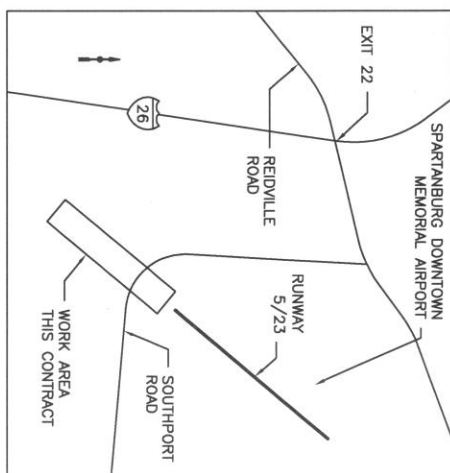
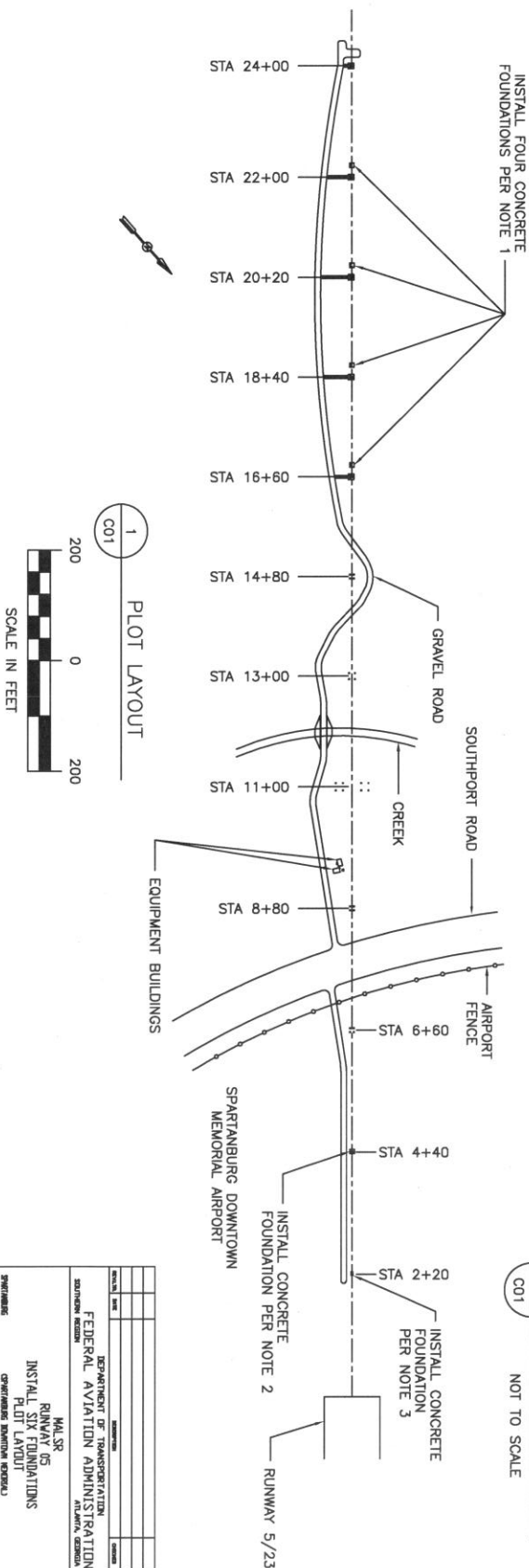
b. All tools, scaffolding, temporary utility connections, building, etc., belonging to the contractor or used under his direction shall be removed from the site.

6.2. All grounds, walkways, and other areas adjacent to the work shall be restored to the original condition before the contractor is released.

7. INSPECTIONS. The contractor shall allow the COR, or other persons designated by the CO, complete access to all portions of the work. The COR shall coordinate and schedule a final inspection date. All work shall be accepted when all work required by this contract, including punch list items, is finished and has passed inspection.

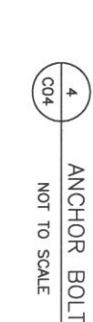
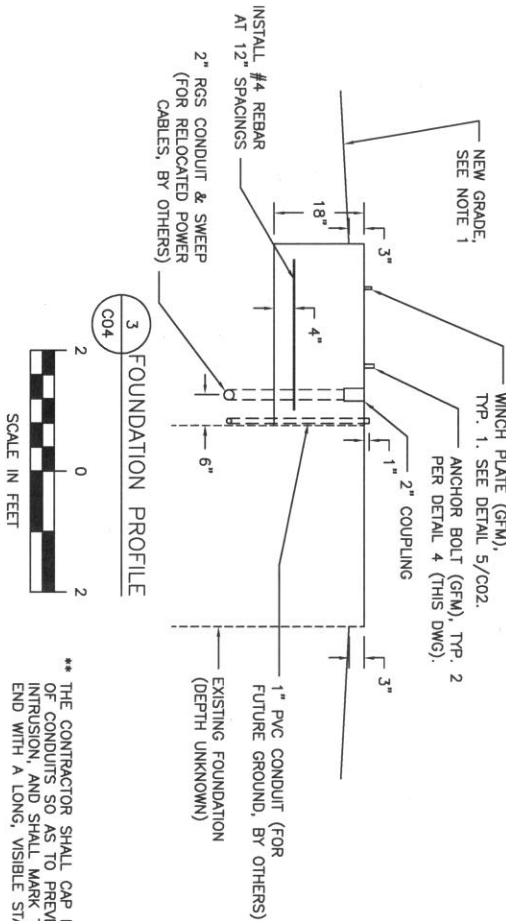
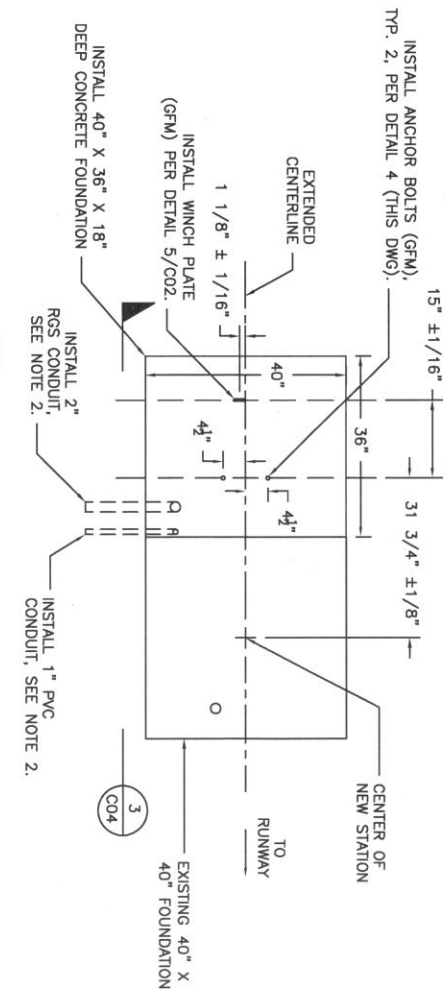
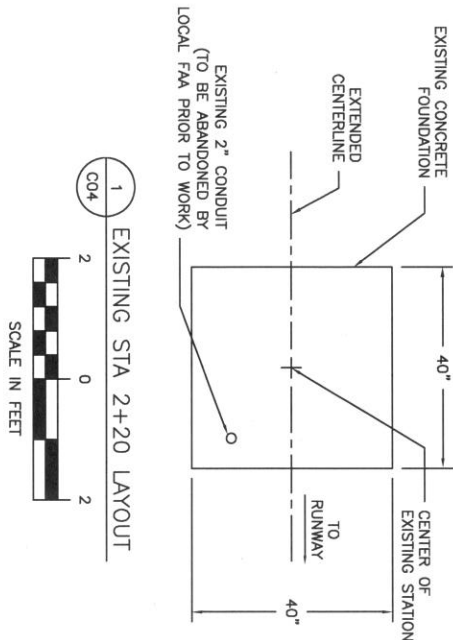
NOTES

1. INSTALL FOUR 8' X 8' X 18" DEEP CONCRETE FOUNDATIONS PER DRAWING CAE-B-207-C02. ALL FOUR SHALL BE LOCATED 20' SOUTHWESTERLY (AWAY FROM RUNWAY) FROM THESE FOUR EXISTING STATIONS: STA. 16+60, STA. 18+40, STA. 20+20 & STA. 22+00.
2. INSTALL AN 8' X 8' X 18" DEEP (MIN) CONCRETE FOUNDATION AROUND THE EXISTING CONCRETE FOUNDATION AT STATION 4+40 PER DRAWING CAE-B-207-C03.
3. INSTALL A 36" X 40" X 18" DEEP (MIN) CONCRETE FOUNDATION BEHIND THE EXISTING CONCRETE FOUNDATION AT STATION 2+20 PER DRAWING CAE-B-207-C04.



DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WASHINGTON, D.C. 20591		PROJECT NO. CAE-B-207-C01	
DRAWN BY: [Signature]		CHECKED BY: [Signature]	
DATE: 12/2/81		DATE: 12/2/81	
APPROVED BY: [Signature]		APPROVED BY: [Signature]	
TITLE: RUNWAY 5/23 INSTALL CONCRETE FOUNDATIONS PLOT LAYOUT		SCALE: 1" = 200'	

- | | | | | |
|---|--------------|-------------------|--------|----------|
| DATE | TIME | REPORTING OFFICER | STATUS | APPROVED |
| | | | | |
| DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRCRAFT ACCIDENT INVESTIGATION DIVISION
1400 AVIATION AVENUE, SUITE 900
MCLEAN, VIRGINIA 22101-4400 | | | | |
| MAJOR
RUNWAY 05
INSTALL SIX FOUNDATIONS
STATION 4+40 LAYOUT AND DETAILS
CANTONMENT DIVISION REQUEST | | | | |
| PROJECT NO. | LOCATION NO. | PROJECT NAME | | |
| | | | | |
| DESIGNED BY | DATE | SCALE | | |
| CHECKED BY | | | | |
| APPROVED BY | | | | |
| AIRWAY FACILITIES
DIVISION
C-A-E-B-207-013 | | | | |

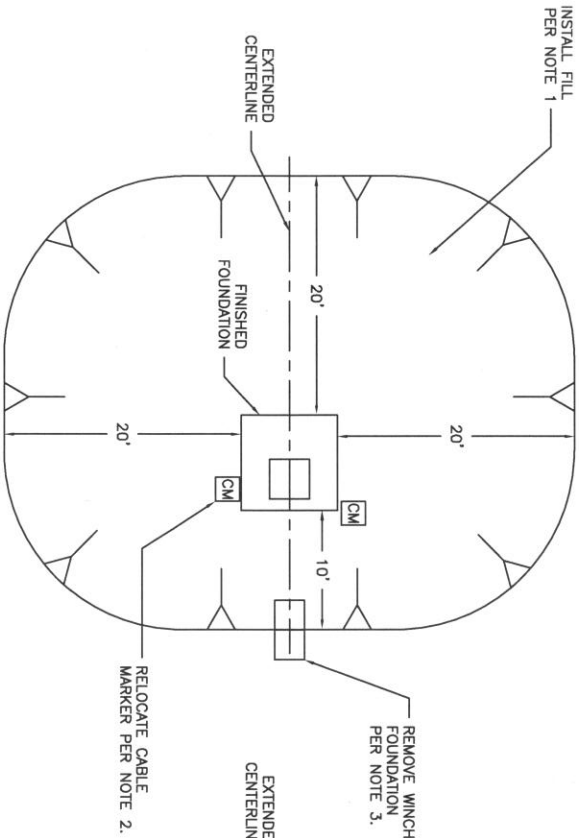


** THE CONTRACTOR SHALL CAP BOTH ENDS OF CONDUITS SO AS TO PREVENT DEBRIS INTRUSION, AND SHALL MARK THE BURIED END WITH A LONG, VISIBLE STAKE.

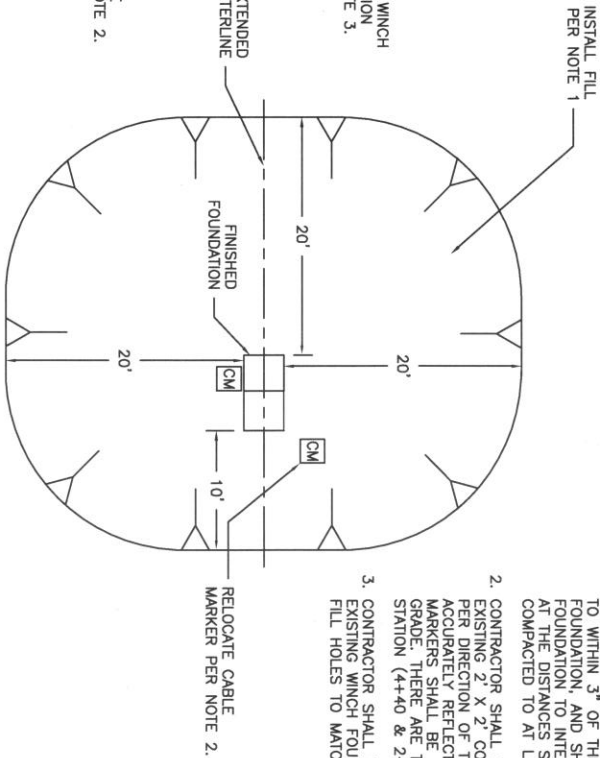
NOTES

1. THE CONTRACTOR SHALL INSTALL NEW FILL AROUND STATION 2+20 TO THE LIMITS SHOWN ON DRAWING CAE-B-207-C05. NEW FILL SHALL BE WITHIN 3\"/>
2. ORIENTATION OF CONDUITS MAY CHANGE. LOCAL FAA WILL DISCONNECT AND UNCOVER EXISTING WIRING. CONDUITS WILL BE ORIENTED SUCH THAT THE SHORTEST CABLE ROUTE IS TAKEN.

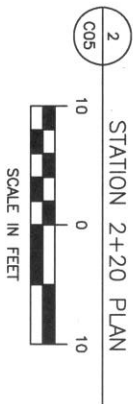
DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION AIRPORTS DIVISION		PROJECT NO. CAE-B-207-C04	
DRAWN BY J. L. JONES		CHECKED BY J. L. JONES	
DESIGNED BY J. L. JONES		APPROVED BY J. L. JONES	
DATE 10/1/2011		SCALE AS SHOWN	



TO RUNWAY →



TO RUNWAY →



NOTES

1. THE CONTRACTOR SHALL INSTALL FILL AROUND FOUNDATIONS AT STATIONS 4+40 AND 2+20 PER THE DIMENSIONS SHOWN. FILL SHALL BE TO WITHIN 3" OF THE TOP OF THE STATION FOUNDATION, AND SHALL TAPER AWAY FROM FOUNDATION TO INTERSECT EXISTING GRADE AT THE DISTANCES SHOWN. FILL SHALL BE COMPACTED TO AT LEAST 95%.
2. CONTRACTOR SHALL RELOCATE AND ORIENT THE EXISTING 2" X 2" CONCRETE CABLE MARKERS PER DIRECTION OF THE LOCAL FEA SO AS TO MAINTAIN THE EXISTING CABLE LOCATIONS. MARKERS SHALL BE 1" ABOVE SURROUNDING GRADE. THERE ARE TWO MARKERS AT EACH STATION (4+40 & 2+20 ONLY).
3. CONTRACTOR SHALL REMOVE FROM SITE TWO EXISTING WINCH FOUNDATIONS FROM STA 4+40. FILL HOLES TO MATCH SURROUNDING GRADE.

DATE	1/2/2011	BY	ARVA/ENR/TLS
DESIGNED BY	ARVA/ENR/TLS	CHECKED BY	ARVA/ENR/TLS
APPROVED BY	ARVA/ENR/TLS	DATE	1/2/2011
DIVISION			
CNE-B-207-C05			

MAJOR
RUNWAY 05
INSTALL SIX FOUNDATIONS
GRADING PLAN AT STA 4+40 & STA 2+20
CONTRACTOR SHALL REMOVE FROM SITE TWO EXISTING WINCH FOUNDATIONS FROM STA 4+40. FILL HOLES TO MATCH SURROUNDING GRADE.